TRAVAINI PUMPS USA
TRVA 65
Single Stage Medium/High Vacuum Pumps

PERFOMANCE DATA	:	From 25 Torr CAPACITY: 70 – 325 cfm
FEATURES	:	Single-stage rotating pump with externally located bearings grease lubricated.
SHAFT SEALING	:	Mechanical seal - Double mechanical seal – Stuffing box.
OPTIONS	:	Bareshaft pump - Coupled to electric motor on baseplate – Monoblock with electric motor.

TECHNICAL DATA

PUMP TYPE		TRVA 65-300		TRVA 65-450	
Speed	RPM	1450	1750	1450	1750
Motor - installed power	HP	10	15	15	20
Average service liquid flow	GPM	7	7	9	9
Noise level at 60 Torr	dB(A)	70	73	70	73
Minimum suction pressure	Torr	25	25	25	25

Pumps are provided with threaded connections for service liquid, pump draining, grease, anticavitation valve and companion flange. Pumps are also provided, by request, with auxiliary threaded connections, companion flanges, flanged air-liquid separator tank, non return valve, ejector, vacuum relief valve, valve to control the flow of the liquid supply, vacuum gauges, pressure gauges and compound gauges.
We can also provide information on our water sealed and oil sealed systems.
For more detailed information please contact our Sales Office.

Example for Model Designation

T R V A 65 – 450 / C - M / GH

T	Travaini Pump USA construction
R	Liquid Ring Pump
V	Single impeller pump with valves for medium and high vacuum
A	Design number
65	Flange size (mm)
450	Nominal capacity (m^3/h)
C	Shaft sealing C = Mechanical seal C2 = Double mechanical seal B = Packing seal
M	Closed-coupled construction with lantern (by request)
GH	Materials of construction GH-F-RA-A3 = See table

Standard Materials of Construction

Part No.	Description	GH	F	RA	A3
106	Suction casing	Cast Iron			
107	Discharge casing				
137	Port plate				
110	Impeller housing				
210	Shaft	Stainless Steel AISI 420		Stainless Steel AISI 316	
147	Manifold	Steel			
357	Bearing housing mech. seal	Cast Iron			
230	Impeller	Bronze	Ductile Iron	Stainless Steel AISI 316	

Special Materials Available Upon Request

Indicative table: for further information please consult our Sales Office

DATA BASED ON :

DRY AIR AT 68 °F – 20 °C ——————

SATURATED AIR AT 68 °F – 20 °C - - - - - - - - - - - -

SERVICE LIQUID WATER

SERVICE LIQUID TEMPERATURE 59 °F – 15 °C

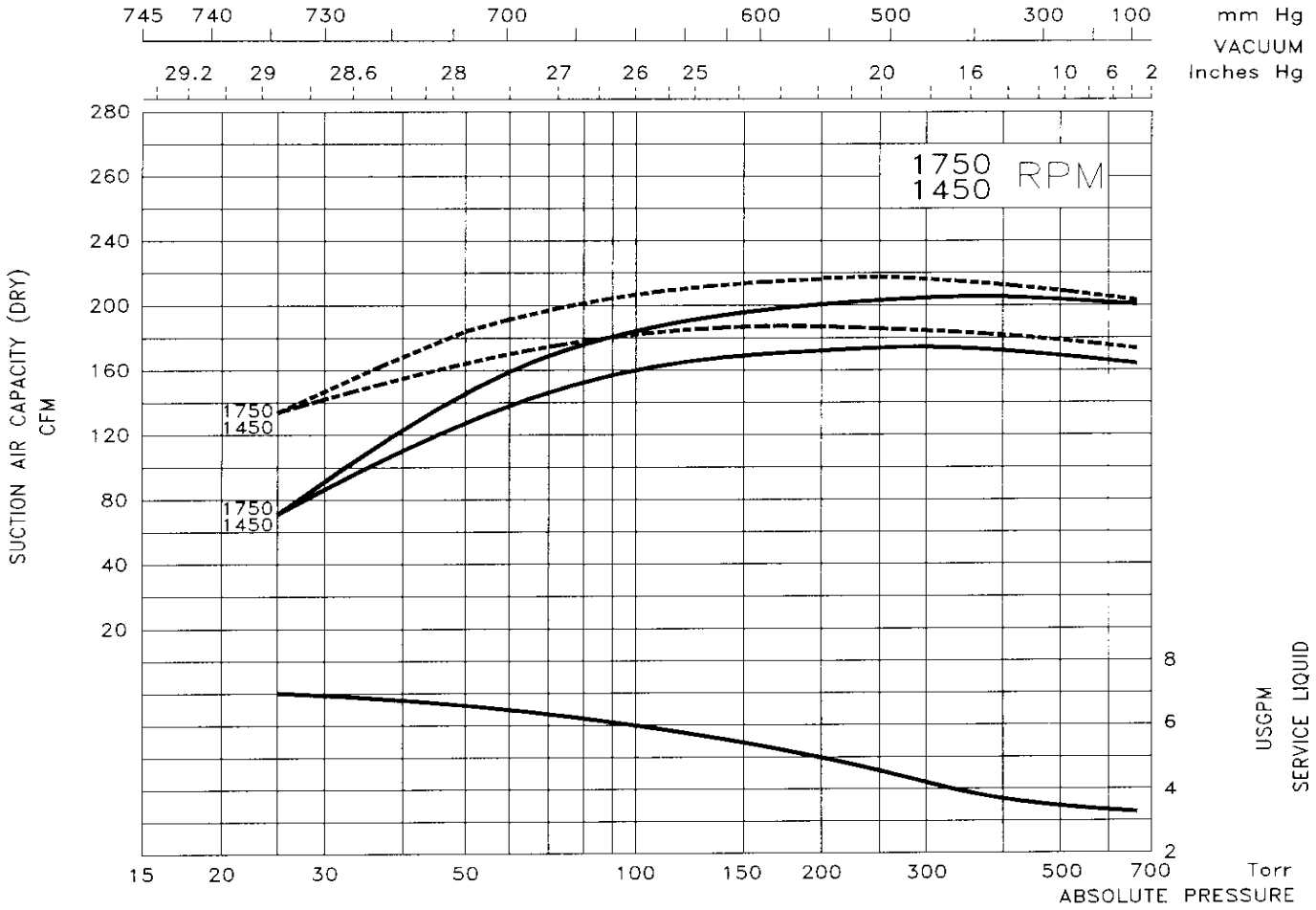
DISCHARGE PRESSURE 1013 mbar

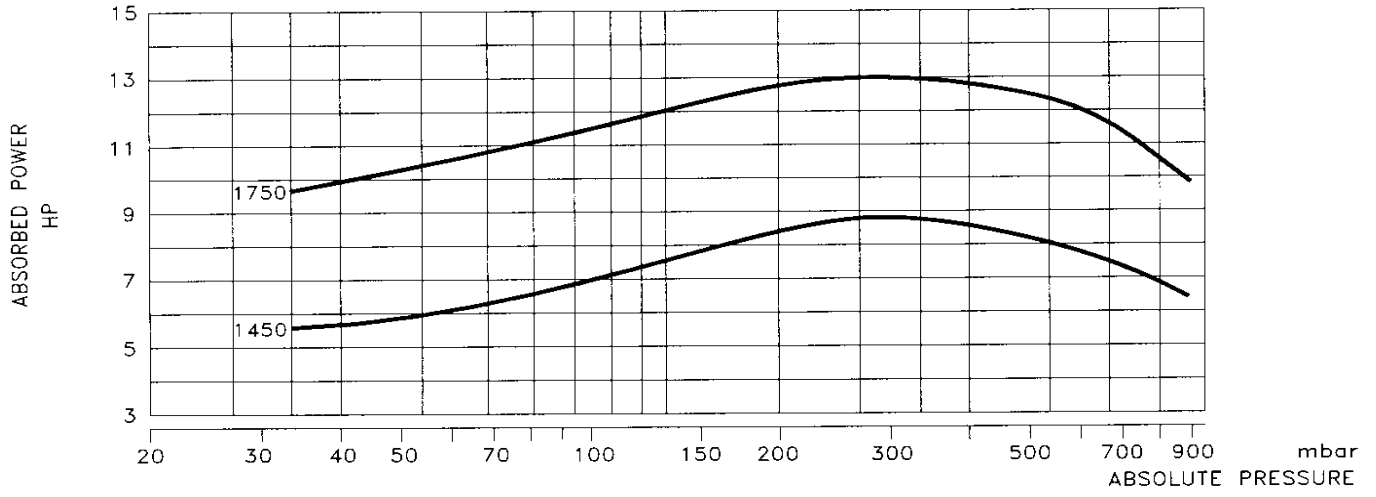
S.S. PUMPS
CAPACITY : –10%

Tol.: 10%

PERFORMANCE DATA
LIQUID RING VACUUM PUMP
PUMP MODEL

TRVA 65–300





TRAVAINI PUMPS USA
Liquid Ring & Rotary Vane Vacuum Pumps and Systems

DATE: APRIL 97

DATA BASED ON :

DRY AIR AT 68 °F – 20 °C ——————

SATURATED AIR AT 68 °F – 20 °C - - - - - - - - - - - -

SERVICE LIQUID WATER

SERVICE LIQUID TEMPERATURE 59 °F – 15 °C

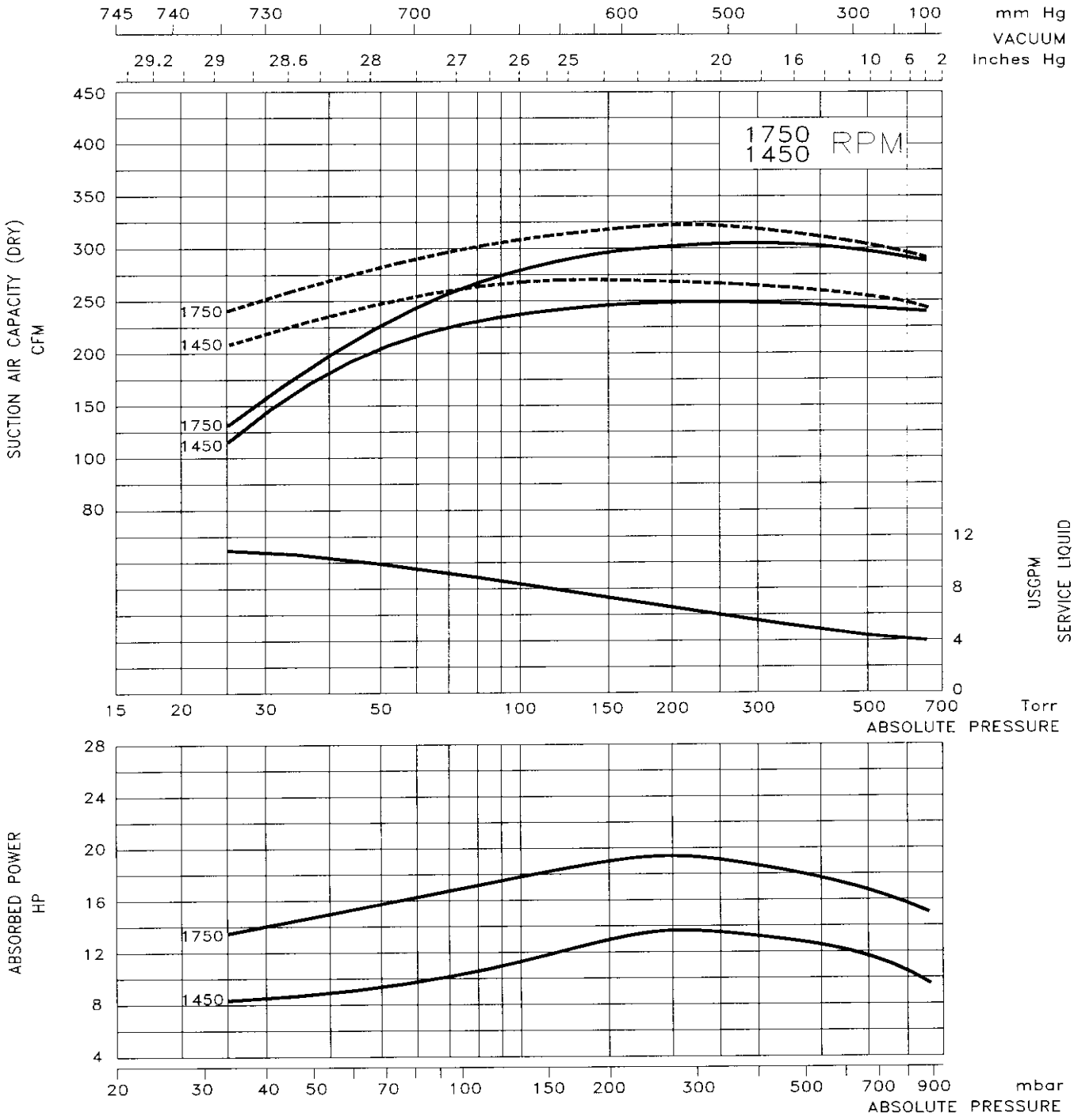
DISCHARGE PRESSURE 1013 mbar

S.S. PUMPS
CAPACITY : –10%

Tol.: 10%

PERFORMANCE DATA
LIQUID RING VACUUM PUMP
PUMP MODEL

TRVA 65–450

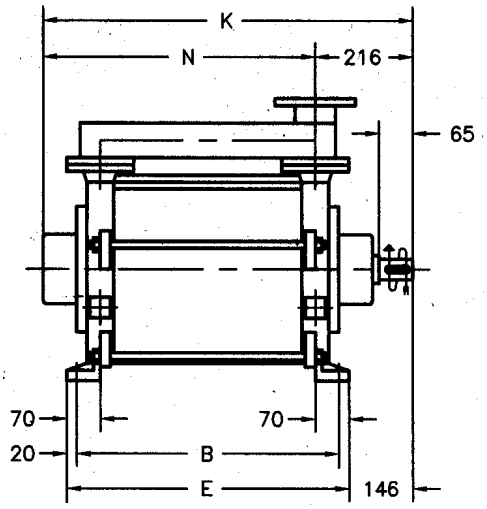


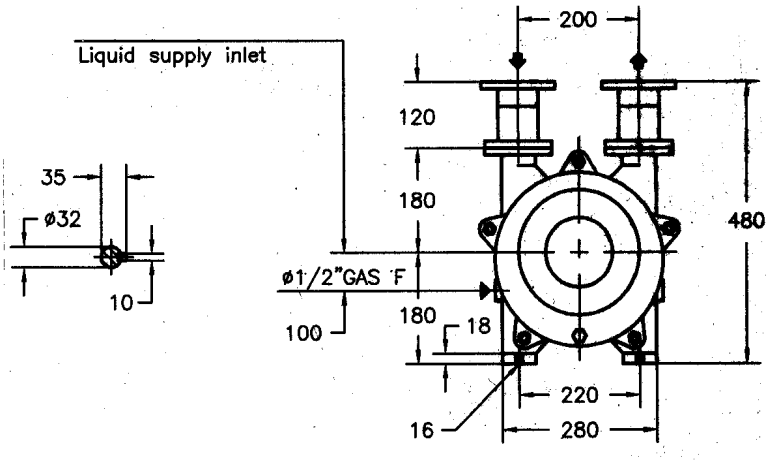
TRAVAINI PUMPS USA
Liquid Ring & Rotary Vane Vacuum Pumps and Systems

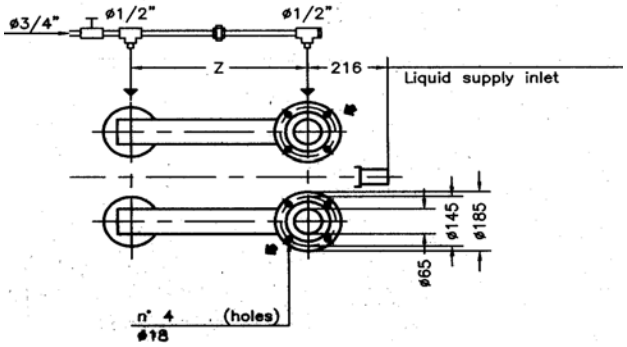
DATE: APRIL 97

TRVA 65/C

Bareshaft Construction with Mechanical Seal





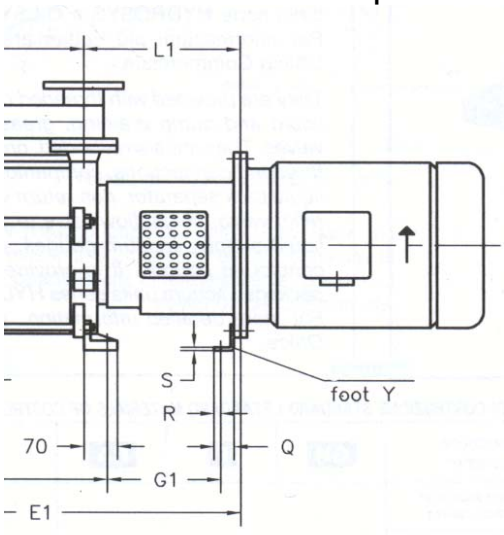


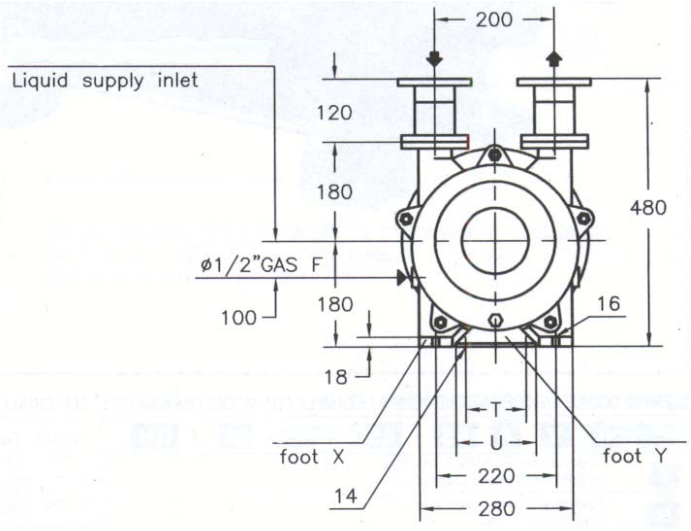
Feed pipe 3/4"

Note: Dimensions in mm. (mm to in = /25.4)

Pump Type	B	E	K	N	Z	Weight lbs.
TRVA 65-300/C	354	394	614	398	254	293
TRVA 65-450/C	424	464	684	468	324	321

Closed-Coupled Construction with Mechanical Seal





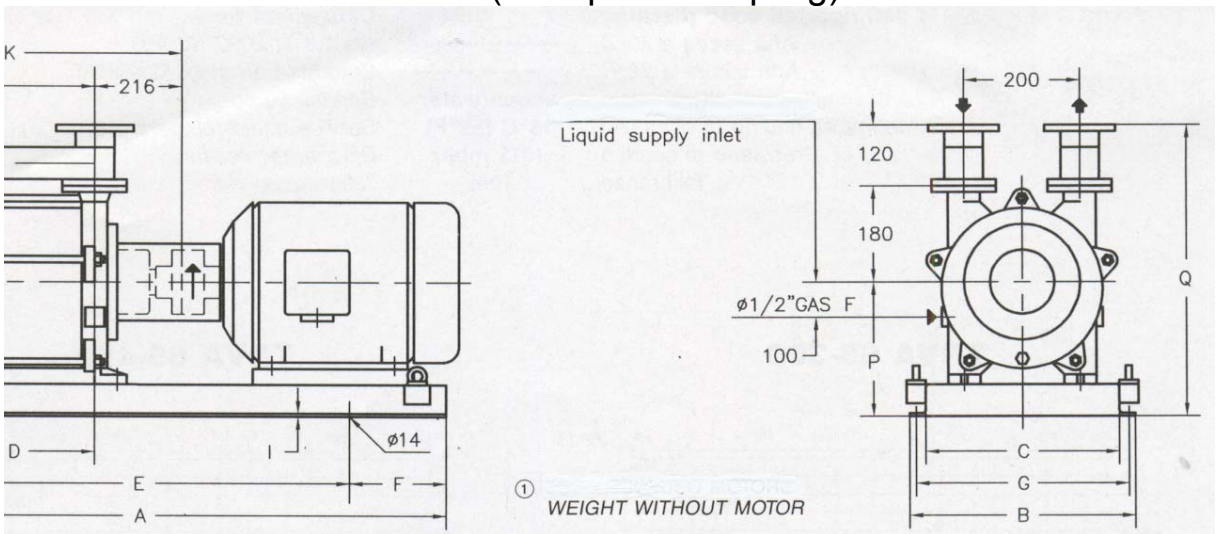
Pump Type	4 Poles Motor HP	Pump											Weight lbs. *
		B	E1	G1	L1	N	Q	R	S	T	U	Z	
TRVA 65-300/C	10	354	637	222	313	398	45	20	4	110	140	254	341
	15												
	15		666	247	342		65	28	19	230	280		359
TRVA 65-450/C	15	424	736			468						324	387
	20												394

1 Weight without motor

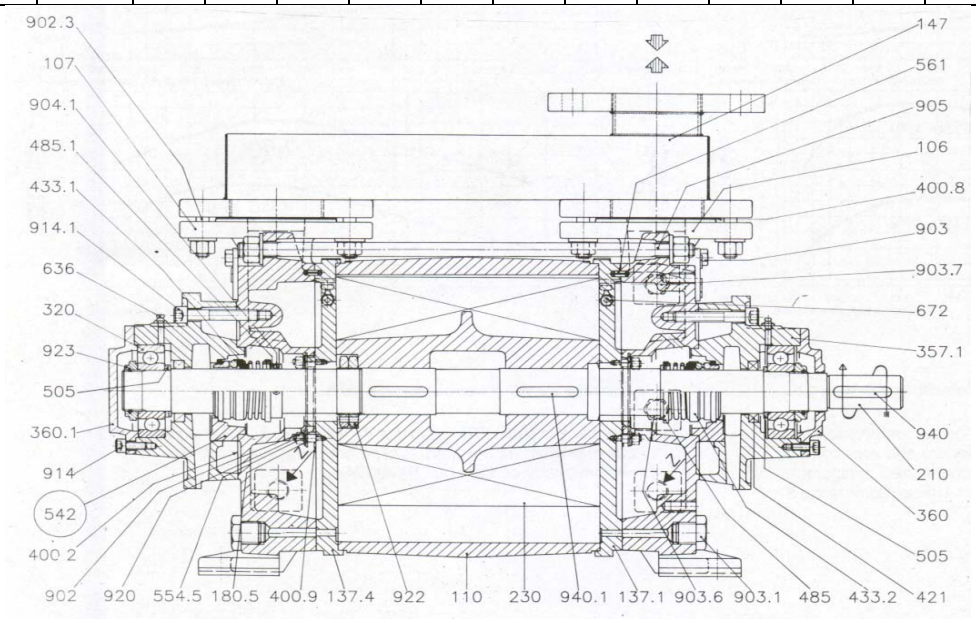
Dimensions are for reference only
Please consult the factory for Certified drawings.

The weights refer to the GH Construction

Base-Mounted Construction (Baseplate-Coupling) with Mechanical Seal



Pump Type	4 Poles Motor HP	Base-plate	Pump													Weight[1] lbs.
			A	B	C	D	E	F	G	I	K	N	P	Q	Z	
TRVA 65-300/C	10	900	960	370	310	168	600	180	340	5	614	398	245	545	254	354
	15															
	15	903	1170	410	350	188	770	200	380	6	684	468	270	570	324	414
TRVA 65-450/C	15					223										442
	20															



Typical Cross Section with Mechanical Seal **TRVA 65 – 300/C, 450/C**

COMPONENTS

VDMA No.	DESIGNATION	VDMA No.	DESIGNATION	VDMA No.	DESIGNATION
106	Suction casing	400.9	Flat valve	903	Plug
107	Discharge casing	• 421	Radial seal ring	903.1	Plug
110	Impeller casing	• 433.1	Mechanical seal c.c.w.	903.6	Plug
137.1	Side element	• 433.2	Mechanical seal c.w.	903.7	Plug
137.4	Side element	485	Mechanical seal locking ring	904.1	Grub-screw
147	Manifold	485.1	Mechanical seal locking ring	905	Tie-bolt
180.5	Valve plate	• 505	Shoulder ring	914	Screw
• 210	Shaft	542	Seal bush	914.1	Screw
• 230	Impeller		(A3 construction only)	920	Nut
• 320	Ball bearing	554.5	Washer	922	Nut
357.1	Bearing and mech. seal housing	561	Cylinder pin	923	Nut
360	Bearing cover	636	Grease nipple	940	Key
360.1	Bearing cover	672	Anticavitation valve	940.1	Key
• 400.2	Gasket	902	Stud	Z	Liquid supply inlet
• 400.8	Gasket	902.3	Stud		

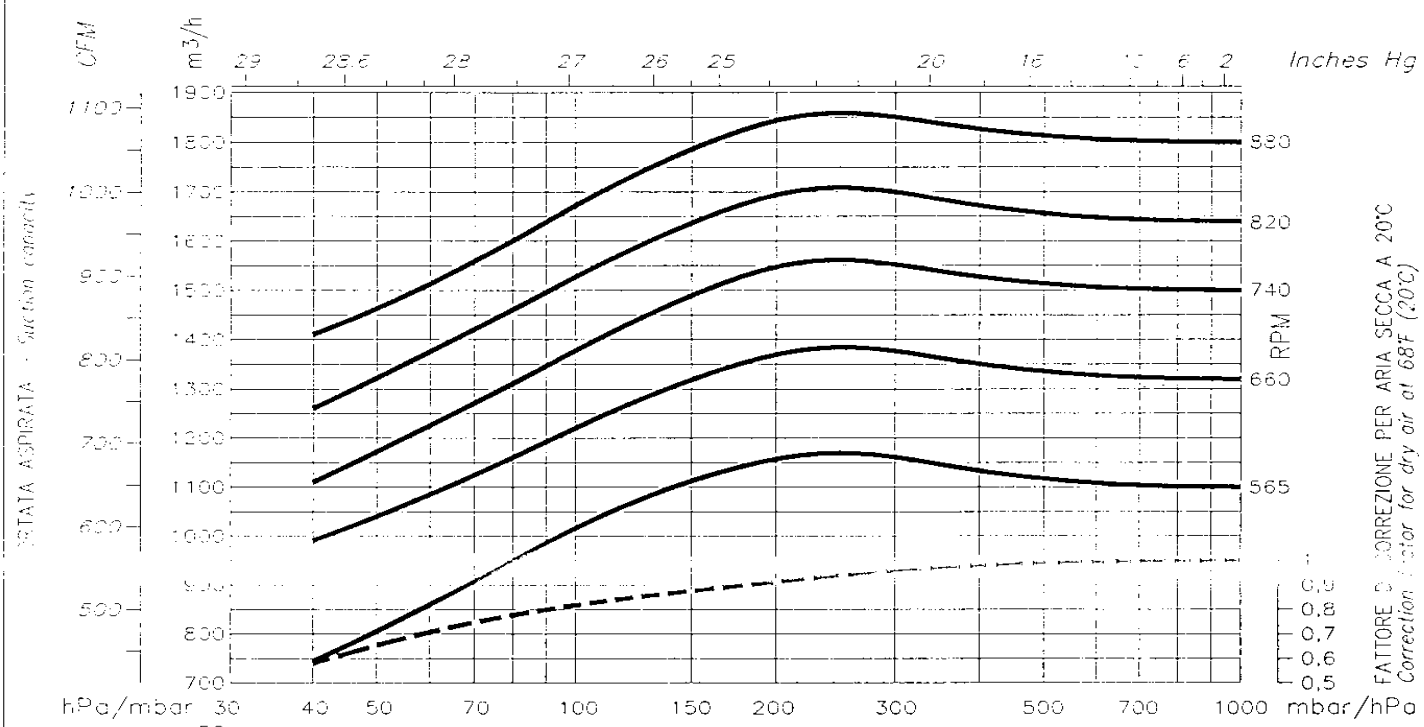
○ = A3 construction only

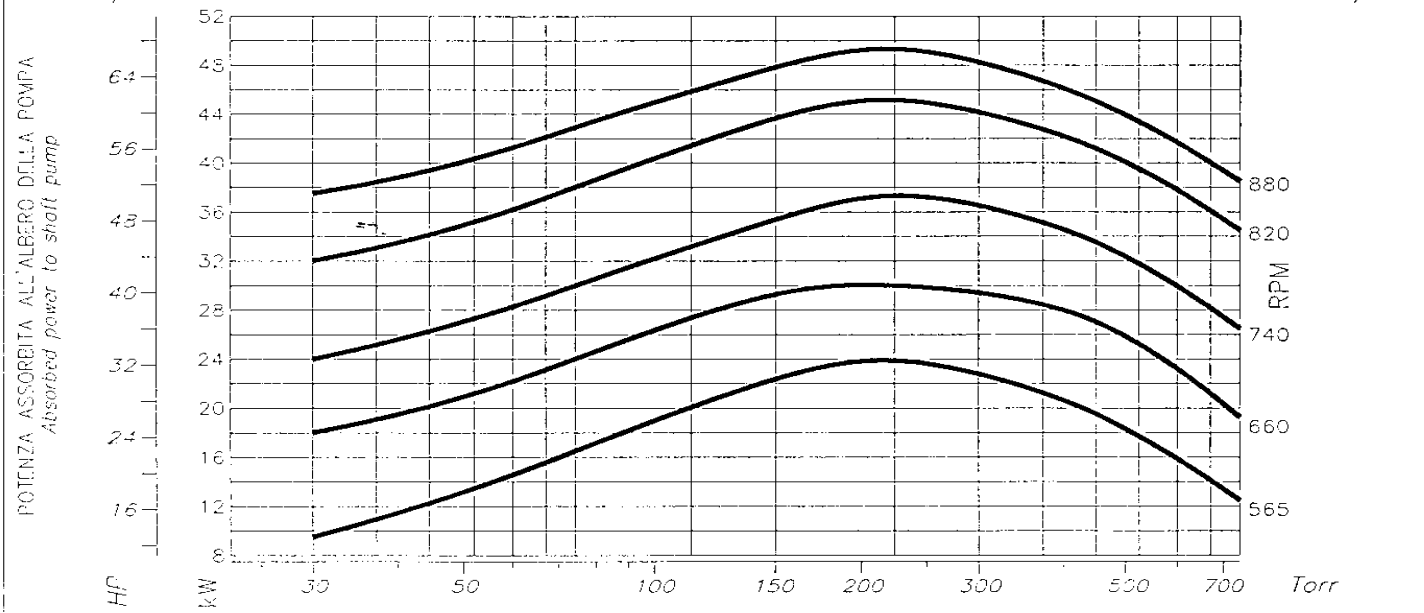
• = Recommended spare parts

DIAGRAMMA DI FUNZIONAMENTO
Performance curves
POMPA PER VUOTO AD ANELLO DI LIQUIDO
Liquid ring vacuum pump

TIPO *Type* **TRVK 1502**

pompetravaini
CASTANO PRIMO (MILANO)





Liquido di servizio alle varie pressioni di aspirazione *Service liquid at various inlet pressure*			
RPM	<200 mbar m³/h	200÷600 mbar m³/h	>600 mbar m³/h
880	4,4÷7,1	3÷4,4	1,7÷3
820	4,1÷6,6	2,8÷4,1	1,6÷2,8
740	3,7÷6	2,5÷3,7	1,4÷2,5
660	3,3÷5,4	2,2÷3,3	1,2÷2,2
565	2,8÷4,6	1,9÷2,8	1,1÷1,9

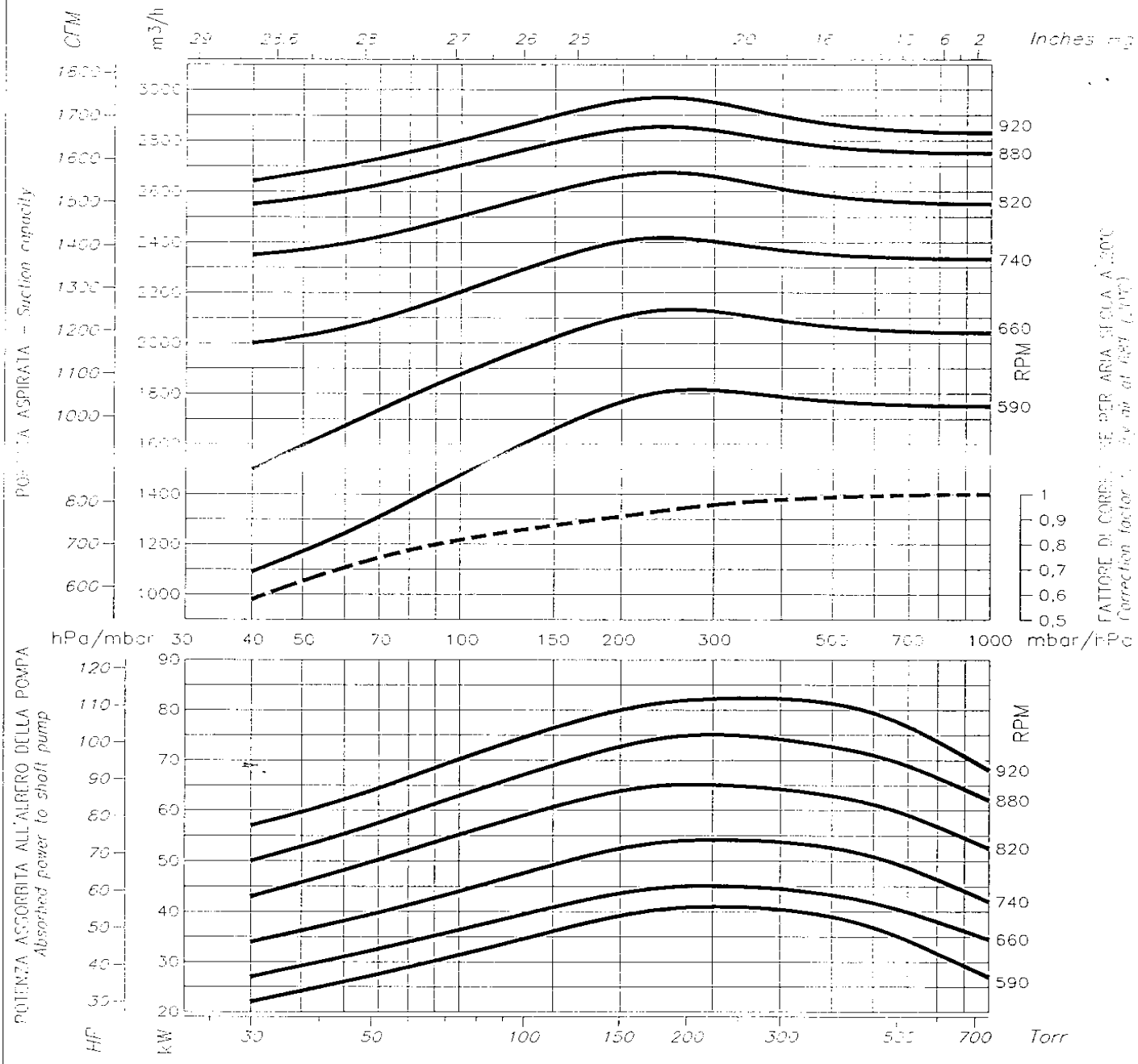
Dati riferiti a condizioni operative con Aria Secca alla temperatura di 20°C, Liquido di Servizio (Acqua) alla temperatura di 15°C e Pressione di Scarico di 1013 mbar/hPa. Tolleranze su Portata Aspirata e Potenza Assorbita: ±5%

Data refers to operating conditions with Saturated Air at temperature of 68°F (20°C), Service Liquid (Water) at temperature of 59°F (15°C) and Discharge Pressure of 1013 mbar/hPa. Tolerances on Suction Capacity and Absorbed Power: ±5%.

RIF.–*Ref.:* F.P./C.T.	DATA–*Date:* 11–2000	SOST.–*Repl.:*	N°.: 8102.150.01.01

DIAGRAMMA DI FUNZIONAMENTO
Performance curves
POMPA PER VUOTO AD ANELLO DI LIQUIDO
Liquid ring vacuum pump
TIPO *Type* **TRVK 1503**

pompetravaini
CASTANO PRIMO (MILANO)



Liquido di servizio alle varie pressioni di aspirazione *Service liquid at various inlet pressure*			
RPM	<200 mbar m3/h	200÷600 mbar m3/h	>600 mbar m3/h
920	6,5÷7,8	4,3÷4,7	2,2÷2,4
880	6,2÷7,5	4,1÷4,5	2÷2,3
820	5,8÷7,4	3,8÷4,2	1,9÷2,1
740	5,2÷6,3	3,4÷3,8	1,7÷1,9
660	4,6÷5,6	3÷3,4	1,5÷1,7
590	4,1÷5	2,1÷3	1,4÷1,6

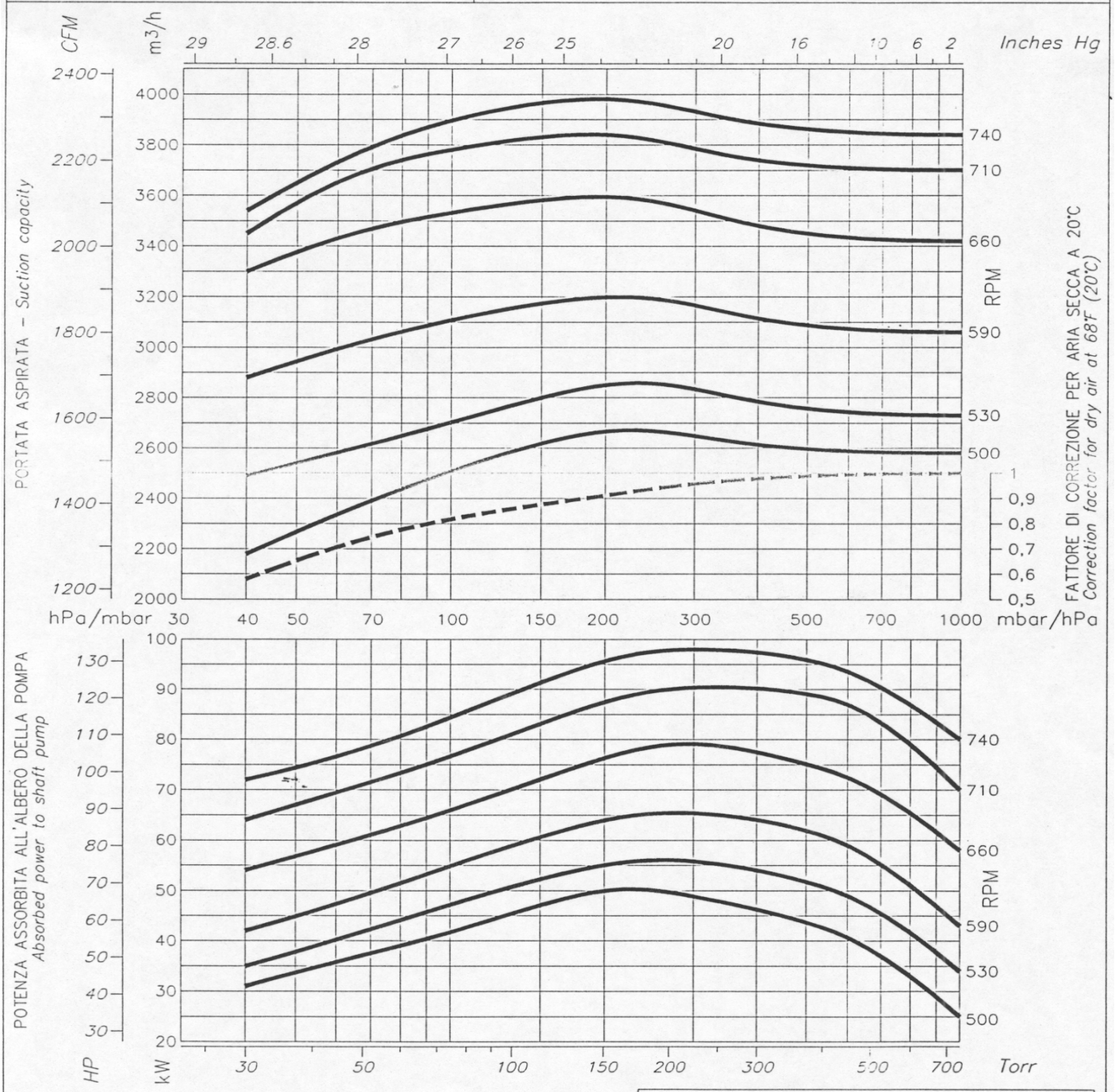
Dati riferiti a condizioni operative con Aria Satura alla temperatura di 20°C, Liquido di Servizio (Acqua) alla temperatura di 15°C e Pressione di Scarico di 1013 mbar/hPa. Tolleranze su Portata Aspirata e Potenza Assorbita: ±5%.

Data refers to operating conditions with Saturated Air at temperature of 68°F (20°C), Service Liquid (Water) at temperature of 59°F (15°C) and Discharge Pressure of 1013 mbar/hPa. Tolerances on Suction Capacity and Absorbed Power: ±5%.

RIF.–*Ref.:* F.P./C.T.	DATA–*Date:* 11–2000	SOST.–*Repl.:*	N°.: 8103.150.01.01

DIAGRAMMA DI FUNZIONAMENTO
Performance curves
POMPA PER VUOTO AD ANELLO DI LIQUIDO
Liquid ring vacuum pump
TIPO *Type* **TRVK 2003**

pompetravaini
CASTANO PRIMO (MILANO)



Liquido di servizio alle varie pressioni di aspirazione *Service liquid at various inlet pressure*			
RPM	<200 mbar m3/h	200÷600 mbar m3/h	>600 mbar m3/h
740	9÷10	7,5÷8,5	3,3÷4,3
710	9÷10	7÷8	3,2÷4,2
660	8÷9	6,5÷7,5	2,9÷3,9
590	7÷8	5,8÷6,8	2,6÷3,6
530	6,5÷7,5	5,3÷6,3	2÷3
500	6÷7	5÷6	2,2÷3,2

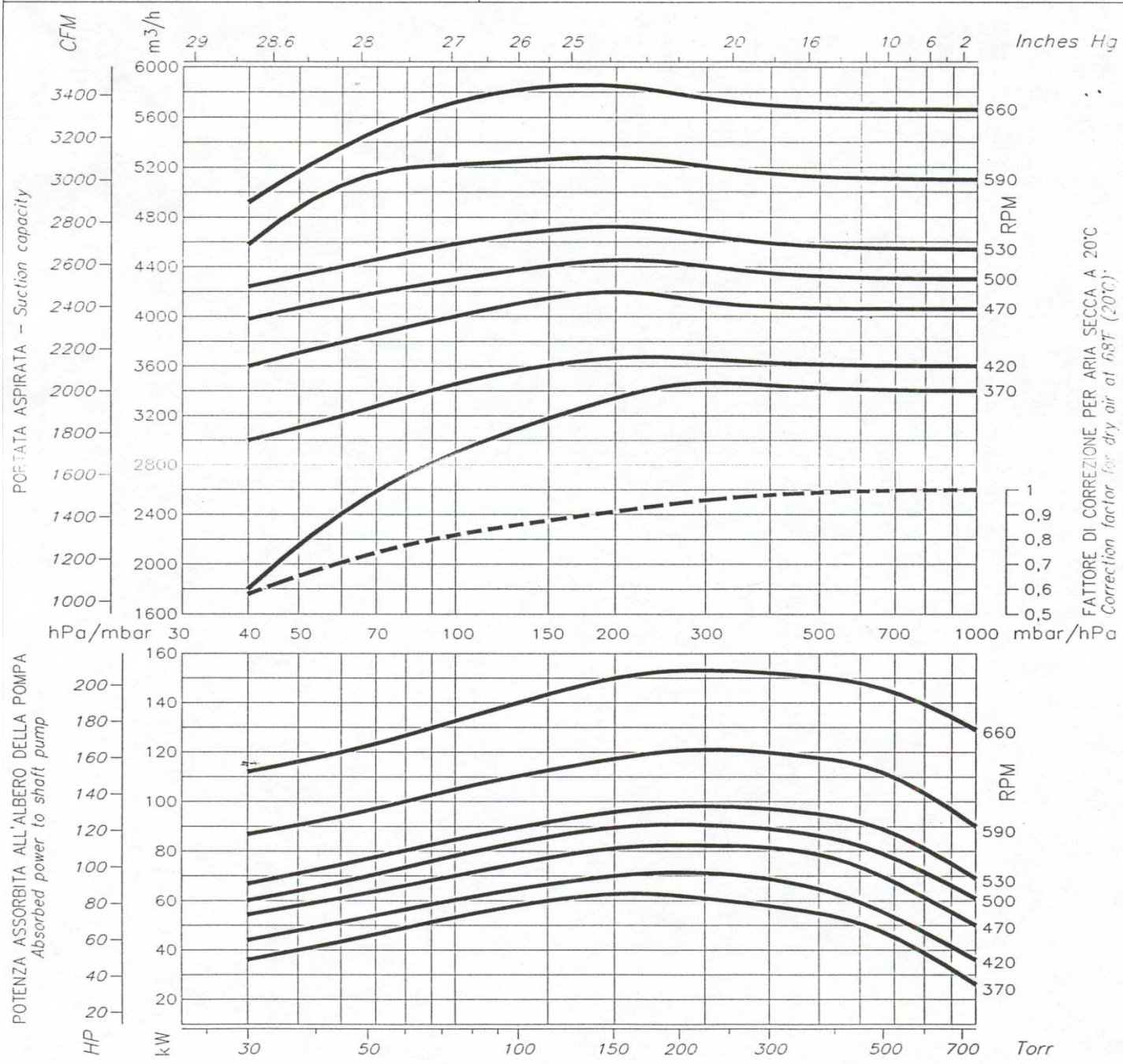
Dati riferiti a condizioni operative con Aria Satura alla temperatura di 20°C, Liquido di Servizio (Acqua) alla temperatura di 15°C e Pressione di Scarico di 1013 mbar/hPa.
Tolleranze su Portata Aspirata e Potenza Assorbita: ±5%.

Data refers to operating conditions with Saturated Air at temperature of 68°F (20°C), Service Liquid (Water) at temperature of 59°F (15°C) and Discharge Pressure of 1013 mbar/hPa.
Tolerances on Suction Capacity and Absorbed Power: ±5%.

RIF.–*Ref.:* F.P./C.T. | DATA–*Date:* 11–2000 | SOST.–*Repl.:* | N°.: 8113.150.01.01

DIAGRAMMA DI FUNZIONAMENTO
Performance curves
POMPA PER VUOTO AD ANELLO DI LIQUIDO
Liquid ring vacuum pump
TIPO *Type* **TRVK 2503**

pompetravaini
CASTANO PRIMO (MILANO)



Liquido di servizio alle varie pressioni di aspirazione *Service liquid at various inlet pressure*				
RPM	<200 mbar m3/h	200÷400 mbar m3/h	400÷600 mbar m3/h	>600 mbar m3/h
660	13,5÷14,5	11÷12	9÷10	4,5÷5,5
590	12÷13	9,5÷10,5	8,5÷9,5	4÷5
530	11÷12	8,5÷9,5	7÷8	3,5÷4,5
500	10,5÷11,5	8÷9	6,5÷7,5	3÷4
470	9,9÷10,5	7,5÷8,5	6÷7	2,8÷3,8
420	8,5÷9,5	6,5÷7,5	5,5÷6,5	2,5÷3,8
370	7,5÷8,5	6÷7	5÷6	2÷3

Dati riferiti a condizioni operative con Aria Satura alla temperatura di 20°C, Liquido di Servizio (Acqua) alla temperatura di 15°C e Pressione di Scarico di 1013 mbar/hPa. Tolleranze su Portata Aspirata e Potenza Assorbita: ±5%.

Data refers to operating conditions with Saturated Air at temperature of 68°F (20°C), Service Liquid (Water) at temperature of 59°F (15°C) and Discharge Pressure of 1013 mbar/hPa. Tolerances on Suction Capacity and Absorbed Power: ±5%.

RIF.–*Ref.:* F.P./C.T.	DATA–*Date:* 11–2000	SOST.–*Repl.:*	N°.: 8123.150.01.01